

Case 1707

***Diabrotica undecimpunctata* Mannerheim, 1843 (Insecta, Coleoptera): proposed conservation of the specific name, and of the subspecific name *howardi* Barber, 1947**

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Abstract. The purpose of this application is the conservation of the specific name of the North American leaf beetle *Diabrotica undecimpunctata* Mannerheim, 1843, which is an important agricultural pest. The unused name *Crioceris sexpunctata* Fabricius, 1792 is a senior subjective synonym of the subspecies *howardi* Barber, 1947 of *D. undecimpunctata*, and the proposed suppression of *sexpunctata* Fabricius conserves both *undecimpunctata* Mannerheim and *howardi* Barber.

1. The North American chrysomelid beetle known as *Diabrotica undecimpunctata* Mannerheim, 1843 is an abundant and important pest species. It attacks a very wide variety (at least seven botanical families) of crops, including corn, fruit and vegetables, and affects them by transmitting diseases as well as by foliage and root feeding. The name is in constant use by plant breeders and pathologists, agronomists, entomologists and others. There are numerous references to it every year.

2. In an application to the Commission published in 1965 (BZN 22: 246) Prof Ray F. Smith (*University of California, Berkeley*) proposed that the specific name *undecimpunctata* should be conserved, although it has a senior subjective synonym. Prof Smith's application, in common with many others, was held in abeyance after its publication because the automatic rejection of nomina oblita (senior synonyms unused for 50 years, with a junior synonym in general use; Article 23b of the 1964 Code) was under review. The relevant Code provision was repealed as from 1 January 1973, but due to pressures the case was never completed (although in 1984 the then Commission Secretary, Mr R.V. Melville, wrote to Prof Smith, who confirmed that *undecimpunctata* should indeed be conserved). The case is now resubmitted in an expanded form.

3. The earliest name probably applying to the species (see Barber, 1947, p. 151) is *Chrysomela duodecimpunctata* Fabricius, 1775 (p. 103), but this is unavailable as a misidentification or junior primary homonym of *C. duodecimpunctata* Linnaeus, 1758 (p. 376). Later Fabricius (1792, p. 4) published the name *Crioceris sexpunctata* for a chrysomelid, citing 'Cap. Bon. Spei' [Cape of Good Hope] as the habitat of the species and 'Mus. Dom. Banks' as the source of the type material. In the original application Prof Smith reported that the Banks collection in the Natural History Museum (London) contained a specimen, labelled '6punctata Forster' and 'type', which is probably the type of *sexpunctata* Fabricius (see also Smith & Lawrence, 1967, p. 122). It was presumably collected by J.R. Forster in North America, Fabricius being in

error about the origin, since it is a specimen of *Diabrotica undecimpunctata howardi* (see para. 7). The name *sexpunctata* has not been used since Hope (1840, p. 102), presumably because Fabricius had attributed the species to a wrong continent.

4. Mannerheim (1843, p. 309) described *Diabrotica duodecimpunctata* (Fabricius, 1775) 'var. b' from California and cited a manuscript name '*Galleruca 11-punctata* Eschscholtz in litteris' in synonymy; he mentioned that 'var. b' might be a distinct species. As stated in para. 3, the name *duodecimpunctata* cannot be used for the species, but under Article 11e of the Code *undecimpunctata* is available (with Mannerheim, 1843 as author) because before 1961 it had been adopted as valid by Michelbacher, MacLeod & Smith, 1941, p. 709 (see also Barber, 1947, p. 153). Mannerheim (1843) placed the species in *Diabrotica* Dejean, [1835] (p. 380); previously Dejean ([1835], p. 381) had mentioned the nomen nudum 'Var. *Undecimpunctata* Esch.' from California under *D. duodecimpunctata* (Fabricius).

5. A different taxonomic species (from Peru) was described with the name *D. undecimpunctata* by Jacoby (1879, p. 524). Barber (1947, p. 153) published the replacement name *D. mauliki* for this species.

6. Klug ([1833], p. 212) described a beetle from Madagascar as *Galleruca undecimpunctata*. The name '*Galleruca*' is an incorrect spelling (introduced by Fabricius, 1792, p. 12) of *Galeruca*, first published by Geoffroy (1762, p. 251). As noted in para. 4, *undecimpunctata* Mannerheim, 1843 was published in association with *Diabrotica* Dejean, [1835] and there is therefore no reason to reject it as a junior primary homonym of *Galeruca undecimpunctata* Klug.

7. Before the introduction by Michelbacher, MacLeod & Smith (1941) of the name *undecimpunctata* Mannerheim the species had been known as *Diabrotica soror* Le Conte, 1865 (p. 212), although there is an earlier synonym than this, namely *D. tenella* Le Conte, 1858 (p. 88). Barber (1947, p. 153) divided *D. undecimpunctata* into four subspecies: the nominotypical one, from the western United States, corresponds to *soror* Le Conte, the holotype of *Crioceris sexpunctata* Fabricius, 1792 (see para. 3) is a specimen of the subspecies *howardi* Barber, 1947 (p. 153) from the southern and eastern U.S., and *tenella* and *duodeciminotata* Harold, 1875 were described from Arizona and Mexico respectively.

8. Smith & Lawrence (1967, p. 136) designated a specimen in the Zoologiska Museet, Helsinki, labelled 'Calif. bor. Coll. Mannerh.', as the lectotype of *Diabrotica duodecimpunctata* var. b Mannerheim, that is of *D. undecimpunctata* Mannerheim, 1843.

9. The conservation of the name *undecimpunctata* Mannerheim, 1843 is highly desirable, since it has for 50 years been in exclusive use for the pest species in a very extensive literature and the senior subjective synonym *sexpunctata* Fabricius, 1792 has not been used for 150 years. Smith's 1965 rejection (BZN 22: 246) of *sexpunctata* as a nomen oblitum was supported by six workers (pp. 246, 247) and still stands; however, Article 79c(iii) of the present Code prescribes that such cases should be referred to the Commission and the opportunity has been taken to add further information.

10. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary powers to suppress the specific name *sexpunctata* Fabricius, 1792, as published in the binomen *Crioceris sexpunctata*, for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;

- (2) to place the following names on the Official List of Specific Names in Zoology:
 - (a) *undecimpunctata* Mannerheim, 1843, as published in association with the generic name *Diabrotica* Dejean, [1835];
 - (b) *howardi* Barber, 1947, as published in the trinomen *Diabrotica undecimpunctata howardi*;
- (3) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *sempunctata* Fabricius, 1792, as published in the binomen *Crioceris sempunctata* and as suppressed in (1) above.

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